```
=> file biosis caba caplus embase japio lifesci medline scisearch
=> e lalvani ajit/au
E1            2     LALVANI A M/AU
E2            2     LALVANI AILT/AU
E3          205 --> LALVANI AJIT/AU
E4           13     LALVANI AJIT DR/AU
E5            6     LALVANI AJIT PROF/AU
E6            6     LALVANI AMRITA/AU
E7            1     LALVANI B H/AU
E8            2     LALVANI D D/AU
E9            1     LALVANI H/AU
E10           2     LALVANI HARESH/AU
E11           1     LALVANI HIMANSHU M/AU
E12           1     LALVANI K SINGH/AU

=> s e1-e5 and tuberculosis
L1          197 ("LALVANI A M"/AU OR "LALVANI AILT"/AU OR "LALVANI AJIT"/AU OR
                "LALVANI AJIT DR"/AU OR "LALVANI AJIT PROF"/AU) AND TUBERCULOSIS

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2            83 DUP REM L1 (114 DUPLICATES REMOVED)

=> s l2 and Rv3879c
L3             6 L2 AND RV3879C

=> d bib ab kwic 1-
YOU HAVE REQUESTED DATA FROM 6 ANSWERS - CONTINUE? Y/(N):y

L3   ANSWER 1 OF 6  BIOSIS  COPYRIGHT (c) 2010 The Thomson Corporation  on STN
AN   2010:32509  BIOSIS <<LOGINID::20100824>>
DN   PREV201000032509
TI   Frequencies of Region of Difference 1 Antigen-Specific but Not Purified
     Protein Derivative-Specific Gamma Interferon-Secreting T Cells Correlate
     with the Presence of   ***Tuberculosis***   Disease but Do Not Distinguish
     Recent from Remote Latent Infections.
AU   Hinks, Timothy S. C.; Dosanjh, Davinder P. S.; Innes, John A.; Pasvol,
     Geoffrey; Hackforth, Sarah; Varia, Hansa; Millington, Kerry A.; Liu,
     Xiao-Qing; Bakir, Mustafa; Soysal, Ahmet; Davidson, Robert N.;
     Gunatheesan, Rubamalar;   ***Lalvani, Ajit***   [Reprint Author]
CS   Univ London Imperial Coll Sci Technol and Med, Natl Heart and Lung Inst,
     Dept Resp Med, TB Res Unit, Norfolk Pl, London W2 1PG, UK
     a.lalvani@imperial.ac.uk
SO   Infection and Immunity, (DEC 2009) Vol. 77, No. 12, pp. 5486-5495.
     CODEN: INFIBR. ISSN: 0019-9567. E-ISSN: 1098-5522.
DT   Article
LA   English
ED   Entered STN: 30 Dec 2009
     Last Updated on STN: 30 Dec 2009
AB   The majority of individuals infected with Mycobacterium
       ***tuberculosis***   achieve lifelong immune containment of the bacillus.
     What constitutes this effective host immune response is poorly understood.
     We compared the frequencies of gamma interferon (IFN-gamma)-secreting T
     cells specific for five region of difference 1 (RD1)-encoded antigens and
     one DosR-encoded antigen in 205 individuals either with active disease (n
     = 167), whose immune responses had failed to contain the bacillus, or with
     remotely acquired latent infection (n = 38), who had successfully achieved
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immune control, and a further 149 individuals with recently acquired asymptomatic infection. When subjects with an IFN-gamma enzyme-linked immunospot (ELISpot) assay response to one or more RD1-encoded antigens were analyzed, T cells from subjects with active disease recognized more pools of peptides from these antigens than T cells from subjects with nonrecent latent infection (P = 0.002). The T-cell frequencies for peptide pools were greater for subjects with active infection than for subjects with nonrecent latent infection for summed RD1 peptide pools (P <= 0.006) and culture filtrate protein 10 (CFP-10) antigen (P = 0.029). Individuals with recently acquired (<6 months) versus remotely acquired (>6 months) latent infection did not differ in numbers of peptide pools recognized, proportions recognizing any individual antigen or peptide pool, or antigen-specific T-cell frequencies (P >= 0.11). The hierarchy of immunodominance for different antigens was purified protein derivative (PPD) > CFP-10 > early secretory antigenic target 6 > ***Rv3879c*** > Rv3878 > Rv3873 > Acr1, and the hierarchies were very similar for active and remotely acquired latent infections. Responses to the DosR antigen alpha-crystallin were not associated with latency (P = 0.373). In contrast to the RD1-specific responses, the responses to PPD were not associated with clinical status (P > 0.17) but were strongly associated with positive tuberculin skin test results (>= 15-mm induration; P <= 0.01). Our results suggest that RD1-specific IFN-gamma-secreting T-cell frequencies correlate with the presence of disease rather than with protective immunity in M. ***tuberculosis*** -infected individuals and do not distinguish recently acquired asymptomatic infection from remotely acquired latent infection.

TI. . . of Region of Difference 1 Antigen-Specific but Not Purified Protein Derivative-Specific Gamma Interferon-Secreting T Cells Correlate with the Presence of ***Tuberculosis*** Disease but Do Not Distinguish Recent from Remote Latent Infections.

AU. . . Pasvol, Geoffrey; Hackforth, Sarah; Varia, Hansa; Millington, Kerry A.; Liu, Xiao-Qing; Bakir, Mustafa; Soysal, Ahmet; Davidson, Robert N.; Gunatheesan, Rubamalar; ***Lalvani, Ajit*** [Reprint Author]

AB The majority of individuals infected with Mycobacterium ***tuberculosis*** achieve lifelong immune containment of the bacillus. What constitutes this effective host immune response is poorly understood. We compared the. . . hierarchy of immunodominance for different antigens was purified protein derivative (PPD) > CFP-10 > early secretory antigenic target 6 > ***Rv3879c*** > Rv3878 > Rv3873 > Acr1, and the hierarchies were very similar for active and remotely acquired latent infections. Responses. . . results suggest that RD1-specific IFN-gamma-secreting T-cell frequencies correlate with the presence of disease rather than with protective immunity in M. ***tuberculosis*** -infected individuals and do not distinguish recently acquired asymptomatic infection from remotely acquired latent infection.

IT . . .
Medicine, Medical Sciences); Infection

IT Parts, Structures, & Systems of Organisms
T cells: immune system, blood and lymphatics

IT Diseases
tuberculosis : bacterial disease, diagnosis, immunology
Tuberculosis (MeSH)

IT Chemicals & Biochemicals
peptides; alpha-crystallin; gamma-interferon; culture filtrate protein 10 [CFP-10]; protein derivatives; Acr1; region of difference-1-encoded antigens

ORGN . . .

Mammals, Primates, Vertebrates
ORGN Classifier
Mycobacteriaceae 08881
Super Taxa
Mycobacteria; Actinomycetes and Related Organisms; Eubacteria;
Bacteria; Microorganisms
Organism Name
Mycobacterium ***tuberculosis*** (species): pathogen
Taxa Notes
Bacteria, Eubacteria, Microorganisms

L3 ANSWER 2 OF 6 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on STN
AN 2008:231546 BIOSIS <<LOGINID::20100824>>
DN PREV200800213786
TI Improved diagnostic evaluation of suspected ***tuberculosis*** .
AU Dosanjh, Davinder P. S.; Hinks, Timothy S. C.; Innes, John A.; Deeks, Jonathan J.; Pasvol, Geoffrey; Hackforth, Sarah; Varia, Hansa; Millington, Kerry A.; Gunatheesan, Rubamalar; Guyot-Revol, Valerie; ***Lalvani,*** ***Ajit*** [Reprint Author]
CS Univ London Imperial Coll Sci Technol and Med, Fac Med, Dept Resp Med, TB Immunol Grp, St Marys Campus,Norfolk Pl, London W2 1PG, UK
a.lalvani@imperial.ac.uk
SO Annals of Internal Medicine, (MAR 4 2008) Vol. 148, No. 5, pp. 325-W72. CODEN: AIMEAS. ISSN: 0003-4819.
DT Article
LA English
ED Entered STN: 26 Mar 2008
Last Updated on STN: 26 Mar 2008
AB Background: The role of new T-cell-based blood tests for ***tuberculosis*** in the diagnosis of active ***tuberculosis*** is unclear.Objective: To compare the performance of 2 interferon-gamma assays and tuberculin skin testing in adults with suspected ***tuberculosis*** .Design: Prospective study conducted in routine practice.Setting: 2 urban hospitals in the United Kingdom.Patients: 389 adults, predominantly of South Asian and black ethnicity, with moderate to high clinical suspicion of active ***tuberculosis*** .Intervention: Tuberculin skin testing, the enzyme-linked immuno-spot assay (ELISpot) incorporating early secretory antigenic target-6 and culture filtrate protein-10 (standard ELISpot), and ELISpot incorporating a novel antigen, ***Rv3879c*** (ELISpot(PLUS)) were performed during diagnostic assessment by independent persons who were blinded to results of the other test.Measurements: Sensitivity, specificity, predictive values, and likelihood ratios.Results: 194 patients had a final diagnosis of active ***tuberculosis*** , of which 79% were culture-confirmed. Sensitivity for culture-confirmed and highly probable ***tuberculosis*** was 89% (95% CI, 84% to 93%) with ELISpot(PLUS), 85% (CI, 79% to 90%) with standard ELISpot, 79% (CI, 72% to 85%) with 15-mm threshold tuberculin skin testing, and 83% (CI, 77% to 89%) with stratified thresholds of 15 and 10 mm in vaccinated and unvaccinated patients, respectively. The ELISpotPLUS assay was more sensitive than tuberculin skin testing with 15-mm cutoff points (P = 0.01) but not with stratified cutoff points (P = 0.10). The ELISpotPLUS assay had 4% higher diagnostic sensitivity than standard ELISpot (P = 0.02). Combined sensitivity of ELISpotPLUS and tuberculin skin testing was 99% (CI, 95% to 100%), conferring a negative likelihood ratio of 0.02 (CI, 0 to 0.06) when both test results were negative.Limitations: Local standards for tuberculin skin testing differed from others used internationally. The study sample included few

immunosuppressed patients.Conclusion: The ELISpotPLUS assay is more sensitive than standard ELISpot and, when used in combination with tuberculin skin testing, enables rapid exclusion of active infection in patients with moderate to high pretest probability of ***tuberculosis*** .

TI Improved diagnostic evaluation of suspected ***tuberculosis*** .

AU. . . C.; Innes, John A.; Deeks, Jonathan J.; Pasvol, Geoffrey; Hackforth, Sarah; Varia, Hansa; Millington, Kerry A.; Gunatheesan, Rubamalar; Guyot-Revol, Valerie; ***Lalvani, Ajit*** [Reprint Author]

AB Background: The role of new T-cell-based blood tests for ***tuberculosis*** in the diagnosis of active ***tuberculosis*** is unclear.Objective: To compare the performance of 2 interferon-gamma assays and tuberculin skin testing in adults with suspected ***tuberculosis*** .Design: Prospective study conducted in routine practice.Setting: 2 urban hospitals in the United Kingdom.Patients: 389 adults, predominantly of South Asian and black ethnicity, with moderate to high clinical suspicion of active ***tuberculosis*** .Intervention: Tuberculin skin testing, the enzyme-linked immuno-spot assay (ELISpot) incorporating early secretory antigenic target-6 and culture filtrate protein-10 (standard ELISpot), and ELISpot incorporating a novel antigen, ***Rv3879c*** (ELISpot(PLUS)) were performed during diagnostic assessment by independent persons who were blinded to results of the other test.Measurements: Sensitivity, specificity, predictive values, and likelihood ratios.Results: 194 patients had a final diagnosis of active ***tuberculosis*** , of which 79% were culture-confirmed. Sensitivity for culture-confirmed and highly probable ***tuberculosis*** was 89% (95% CI, 84% to 93%) with ELISpot(PLUS), 85% (CI, 79% to 90%) with standard ELISpot, 79%. . . combination with tuberculin skin testing, enables rapid exclusion of active infection in patients with moderate to high pretest probability of ***tuberculosis*** .

IT . . .
(Allied Medical Sciences); Infection

IT Parts, Structures, & Systems of Organisms
T cell: immune system, blood and lymphatics

IT Diseases
tuberculosis : bacterial disease, diagnosis
Tuberculosis (MeSH)

IT Chemicals & Biochemicals
interferon-gamma; tuberculin

ORGN . . .
Mammals, Primates, Vertebrates

ORGN Classifier
Mycobacteriaceae 08881

Super Taxa
Mycobacteria; Actinomycetes and Related Organisms; Eubacteria; Bacteria; Microorganisms

Organism Name
Mycobacterium ***tuberculosis*** (species): pathogen

Taxa Notes
Bacteria, Eubacteria, Microorganisms

L3 ANSWER 3 OF 6 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on STN

AN 2004:338264 BIOSIS <<LOGINID::20100824>>

DN PREV200400338445

TI Evaluation of T-cell responses to novel RD1- and RD2-encoded Mycobacterium ***tuberculosis*** gene products for specific detection of human ***tuberculosis*** infection.

AU Liu, Xiao-Qing; Dosanjh, Davinder; Varia, Hansa; Ewer, Katie; Cockle, Paul; Pasvol, Geoffrey; ***Lalvani, Ajit*** [Reprint Author]

CS John Radcliffe HospNuffield Dept Clin Med, Univ Oxford, Level 7, Oxford, OX3 9DU, England
ajit.lalvani@ndm.ox.ac.uk

SO Infection and Immunity, (May 2004) Vol. 72, No. 5, pp. 2574-2581. print.
ISSN: 0019-9567 (ISSN print).
DT Article
LA English
ED Entered STN: 11 Aug 2004
Last Updated on STN: 11 Aug 2004

AB The tuberculin skin test for diagnosing Mycobacterium ***tuberculosis*** infection suffers from antigenic crossreactivity of purified protein derivative with BCG, resulting in poor specificity in BCG-vaccinated populations. Comparative genomics has identified several genetic regions in M. ***tuberculosis*** and M. bovis that are deleted in M. bovis BCG. Proteins encoded in these regions will form the basis of new specific T-cell-based blood tests that do not cross-react with BCG, but only two, early secretory antigen target 6 and culture filtrate protein 10, have been studied in detail in humans. We investigated four novel gene products, encoded by RD2 (Rv1989c) and RD1 (Rv3873, Rv3878, and ***Rv3879c***), that are absent from most or all of the vaccine strains of BCG, respectively. Sixty-seven overlapping peptides were tested in ex vivo gamma interferon enzyme-linked immunospot assays in 49 patients with culture-confirmed ***tuberculosis*** and 38 healthy BCG-vaccinated donors. Forty-five percent (95% confidence interval (CI), 31 to 57%) and 53% (95% CI, 39 to 67%) of the ***tuberculosis*** patients responded to ***Rv3879c*** and Rv3873, respectively, identifying these proteins as major M. ***tuberculosis*** T-cell antigens in humans, while 35 and 25% of the patients responded to Rv3878 and Rv1989c, respectively. Of the 38 BCG-vaccinated donors, 1 (2.6%) responded to peptides from Rv3878 and ***Rv3879c*** , 3 (7.9%) responded to Rv3873, and none responded to Rv1989c. Exclusion of cross-reactive peptides encoded in conserved motifs of Rv3873, a PPE family member, increased its specificity to 97.4%. The high specificity of ***Rv3879c*** peptides and nonconserved Rv3873 sequences, together with their moderate sensitivity in ***tuberculosis*** patients, identifies these peptides as candidates for inclusion in new T-cell-based tests for M. ***tuberculosis*** infection.

TI Evaluation of T-cell responses to novel RD1- and RD2-encoded Mycobacterium ***tuberculosis*** gene products for specific detection of human ***tuberculosis*** infection.

AU Liu, Xiao-Qing; Dosanjh, Davinder; Varia, Hansa; Ewer, Katie; Cockle, Paul; Pasvol, Geoffrey; ***Lalvani, Ajit*** [Reprint Author]

AB The tuberculin skin test for diagnosing Mycobacterium ***tuberculosis*** infection suffers from antigenic crossreactivity of purified protein derivative with BCG, resulting in poor specificity in BCG-vaccinated populations. Comparative genomics has identified several genetic regions in M. ***tuberculosis*** and M. bovis that are deleted in M. bovis BCG. Proteins encoded in these regions will form the basis of. . . studied in detail in humans. We investigated four novel gene products, encoded by RD2 (Rv1989c) and RD1 (Rv3873, Rv3878, and ***Rv3879c***), that are absent from most or all of the vaccine strains of BCG, respectively. Sixty-seven overlapping peptides were tested in ex vivo gamma interferon enzyme-linked immunospot assays in 49 patients with culture-confirmed ***tuberculosis*** and 38 healthy BCG-vaccinated

donors. Forty-five percent (95% confidence interval (CI), 31 to 57%) and 53% (95% CI, 39 to 67%) of the ***tuberculosis*** patients responded to ***Rv3879c*** and Rv3873, respectively, identifying these proteins as major M. ***tuberculosis*** T-cell antigens in humans, while 35 and 25% of the patients responded to Rv3878 and Rv1989c, respectively. Of the 38 BCG-vaccinated donors, 1 (2.6%) responded to peptides from Rv3878 and ***Rv3879c*** , 3 (7.9%) responded to Rv3873, and none responded to Rv1989c. Exclusion of cross-reactive peptides encoded in conserved motifs of Rv3873, a PPE family member, increased its specificity to 97.4%. The high specificity of ***Rv3879c*** peptides and nonconserved Rv3873 sequences, together with their moderate sensitivity in ***tuberculosis*** patients, identifies these peptides as candidates for inclusion in new T-cell-based tests for M. ***tuberculosis*** infection.

IT . . .
T cells: blood and lymphatics, immune system, mycobacterial RD-1 encoded gene product response, mycobacterial RD-2 encoded gene product response, specific ***tuberculosis*** detection

IT Diseases
tuberculosis : bacterial disease, diagnosis
Tuberculosis (MeSH)

ORGN . . .
Mammals, Primates, Vertebrates

ORGN Classifier
Mycobacteriaceae 08881

Super Taxa
Mycobacteria; Actinomycetes and Related Organisms; Eubacteria; Bacteria; Microorganisms

Organism Name
Mycobacterium ***tuberculosis*** (species): pathogen

Taxa Notes
Bacteria, Eubacteria, Microorganisms

L3 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2010 ACS on STN
AN 2008:353194 CAPLUS <<LOGINID::20100824>>
DN 148:353677
TI Method and kit for detecting if an individual is susceptible to progress to an active mycobacterial disease
IN ***Lalvani, Ajit*** ; Millington, Kerry
PA UK
SO PCT Int. Appl., 31pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2008032092	A1	20080320	WO 2007-GB3498	20070914

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,

IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

AU 2007297318 A1 20080320 AU 2007-297318 20070914

EP 2069792 A1 20090617 EP 2007-804286 20070914

R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, RS

JP 2010503846 T 20100204 JP 2009-527893 20070914

US 20100008955 A1 20100114 US 2009-441296 20090908

PRAI GB 2006-18127 A 20060914

WO 2007-GB3498 W 20070914

AB The authors disclose a method for detecting whether an individual will progress to active ***tuberculosis*** . The method comprises detg. whether the individual has a T cell response to one or more of the following mycobacterial antigens: CFP-10; Rv1989c; Rv3873; or Rv3878.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

IN ***Lalvani, Ajit*** ; Millington, Kerry

AB The authors disclose a method for detecting whether an individual will progress to active ***tuberculosis*** . The method comprises detg. whether the individual has a T cell response to one or more of the following mycobacterial. . .

ST T cell antigen ***tuberculosis*** prognosis

IT Proteins

RL: ARG (Analytical reagent use); DGN (Diagnostic use); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(CFP-10 (culture filtrate protein-10); T-cell response to mycobacterial antigens in detection of active ***tuberculosis*** progression)

IT Antigens

RL: ARG (Analytical reagent use); DGN (Diagnostic use); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(ESAT-6 (early secreted antigen target-6); T-cell response to mycobacterial antigens in detection of active ***tuberculosis*** progression)

IT Proteins

RL: ARG (Analytical reagent use); DGN (Diagnostic use); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(Rv1989c; T-cell response to mycobacterial antigens in detection of active ***tuberculosis*** progression)

IT Proteins

RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); DGN (Diagnostic use); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(Rv3873; T-cell response to mycobacterial antigens in detection of active ***tuberculosis*** progression)

IT Proteins

RL: ARG (Analytical reagent use); DGN (Diagnostic use); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(Rv3878; T-cell response to mycobacterial antigens in detection of active ***tuberculosis*** progression)

IT Proteins

RL: ARG (Analytical reagent use); DGN (Diagnostic use); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(***Rv3879c*** ; T-cell response to mycobacterial antigens in detection of active ***tuberculosis*** progression)

IT Enzyme-linked immunosorbent assay
Epitopes
Human
Mycobacterium ***tuberculosis***
Prognosis
T cell
Tuberculosis
(T-cell response to mycobacterial antigens in detection of active ***tuberculosis*** progression)

IT Interleukin 2
RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(T-cell response to mycobacterial antigens in detection of active ***tuberculosis*** progression)

IT Peptides
RL: ARG (Analytical reagent use); DGN (Diagnostic use); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(T-cell response to mycobacterial antigens in detection of active ***tuberculosis*** progression)

IT Tuberculostatics
(T-cell response to mycobacterial antigens in detection of active ***tuberculosis*** progression in relation to)

IT Development, mammalian postnatal
(child; T-cell response to mycobacterial antigens in detection of active ***tuberculosis*** progression)

IT Protein sequences
(for proteins of Mycobacterium ***tuberculosis***)

IT Interferons
RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(.gamma.; T-cell response to mycobacterial antigens in detection of active ***tuberculosis*** progression)

IT 183273-31-6 183273-39-4 267241-08-7 267241-09-8 267241-10-1
267241-11-2 267241-12-3 267241-13-4 267241-14-5 267241-15-6
267241-16-7 440640-61-9 440640-64-2 440640-66-4 440640-68-6
440640-75-5 440640-77-7 646996-94-3 646996-95-4 646996-96-5
646996-98-7 646996-99-8 646997-00-4 646997-01-5 646997-02-6
646997-03-7 646997-04-8 646997-05-9 646997-06-0 646997-07-1
646997-08-2 646997-09-3 646997-10-6 646997-11-7 646997-12-8
700370-18-9 700370-19-0 700370-20-3 1012313-35-7 1012313-36-8
1012313-37-9 1012313-38-0 1012313-39-1 1012313-40-4 1012313-41-5
1012313-42-6 1012313-43-7 1012313-44-8 1012313-45-9 1012313-46-0
1012313-47-1 1012313-48-2 1012313-49-3 1012313-50-6 1012313-51-7
1012313-52-8 1012313-53-9 1012313-54-0 1012313-55-1 1012313-56-2
1012313-57-3 1012313-58-4 1012313-59-5 1012313-60-8 1012313-61-9
1012313-62-0 1012313-63-1 1012313-64-2 1012313-65-3 1012313-66-4
1012313-67-5 1012313-68-6 1012313-69-7 1012313-70-0 1012313-71-1
1012313-72-2 1012313-73-3 1012313-74-4 1012313-75-5
RL: ARG (Analytical reagent use); DGN (Diagnostic use); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(T-cell response to mycobacterial antigens in detection of active ***tuberculosis*** progression)

IT 1012347-89-5 1012347-90-8 1012347-91-9 1012347-92-0 1012347-93-1
1012347-94-2
RL: ARG (Analytical reagent use); DGN (Diagnostic use); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(amino acid sequence; T-cell response to mycobacterial antigens in

detection of active ***tuberculosis*** progression)

L3 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2010 ACS on STN
AN 2005:1049885 CAPLUS <<LOGINID::20100824>>
DN 143:345353
TI A method of diagnosing Mycobacterium ***tuberculosis*** infection in a human
IN ***Lalvani, Ajit***
PA Isis Innovation Limited, UK
SO PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005090988	A2	20050929	WO 2005-GB1062	20050321
	WO 2005090988	A3	20060202		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2005224434	A1	20050929	AU 2005-224434	20050321
	EP 1735623	A2	20061227	EP 2005-729257	20050321
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	US 20080305503	A1	20081211	US 2008-593384	20080829
PRAI	GB 2004-6271	A	20040319		
	WO 2005-GB1062	W	20050321		

AB The invention provides a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human, or of detg. whether a human has been exposed to Mycobacterium ***tuberculosis*** . The methods comprising: contacting T-cells from said human with one or more of a peptide; a peptide having or comprising the sequence of at least 8 consecutive amino acids of the sequence; or a peptide having or comprising a sequence which is capable of binding to a T-cell receptor which recognizes a peptide; and detg. whether any of the said T-cells recognize said peptide, wherein first two steps are optionally carried out in vitro. The present invention relates to identification of ***Rv3879c*** as a major T-cell antigen in humans, with 45% of ***tuberculosis*** patients responding to peptides from the Rv3879 gene product. Only one of 38 (2.6%) BCG-vaccinated donors responded to peptides from ***Rv3879c*** . The high specificity of ***Rv3879c*** peptides, together with their moderate sensitivity in ***tuberculosis*** patients, identify these peptides as candidates for inclusion in new T cell-based tests for MTB infection.

OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI A method of diagnosing Mycobacterium ***tuberculosis*** infection in a human

IN ***Lalvani, Ajit***

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ST human Mycobacterium ***tuberculosis*** diagnosis T cell antigen sequence

IT Gene, microbial
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(CFP10; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Gene, microbial
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ESAT-6; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Gene, microbial
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(RD-1; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Gene, microbial
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(RD-2; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Gene, microbial
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Rv1989c; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Gene, microbial
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Rv3878; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Antigens
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(T cell, Rv3873, Rv3878 or Rv1989c; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Diagnosis
Human

Molecular recognition
Mycobacterium ***tuberculosis***
Protein sequences
T cell (lymphocyte)
Test kits
Tuberculosis
(a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Cytokines
TCR (T cell receptors)
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Immobilization, molecular or cellular
(antibody; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Infection
(bacterial; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Antibodies and Immunoglobulins
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(complexes, antibody/cytokine; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Antibodies and Immunoglobulins
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(immobilized, cytokine binding to; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Interferons
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(.gamma.; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT 700370-21-4 865720-88-3 865720-89-4 865720-90-7 865720-91-8
865720-92-9 865720-93-0 865720-94-1 865720-95-2 865720-96-3
865720-97-4 865720-98-5 865720-99-6 865721-00-2 865721-01-3
865721-02-4 865721-03-5
RL: DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amino acid sequence of peptide; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT 865732-41-8
RL: DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amino acid sequence; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT 700370-16-7 700370-17-8 700370-18-9 700370-19-0 700370-20-3
865721-04-6 865721-05-7 865721-06-8 865721-07-9 865721-08-0
865741-45-3 865741-46-4 865741-47-5 865741-48-6
RL: PRP (Properties)
(unclaimed sequence; method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

L3 ANSWER 6 OF 6 LIFESCI COPYRIGHT 2010 CSA on STN
AN 2010:129577 LIFESCI <<LOGINID::20100824>>

TI Frequencies of Region of Difference 1 Antigen-Specific but Not Purified Protein Derivative-Specific Gamma Interferon-Secreting T Cells Correlate with the Presence of ***Tuberculosis*** Disease but Do Not Distinguish Recent from Remote Latent Infections

AU C. Hinks, Timothy S.; S. Dosanjh, Davinder P.; Innes, John A.; Pasvol, Geoffrey; Hackforth, Sarah; Varia, Hansa; Millington, Kerry A.; Liu, Xiao-Qing; Bakir, Mustafa; Soysal*, Ahmet; Davidson*, Robert N.; Gunatheesan*, Rubamalar; ***Lalvani*, Ajit***

CS Tuberculosis Research Unit, Department of Respiratory Medicine, National Heart and Lung Institute, Imperial College London, St. Mary's Campus, Norfolk Place, London W2 1PG, United Kingdom; E-mail: a.lalvanimperial.ac.uk

SO Infection and Immunity [Infect. Immun.], (20091200) vol. 77, no. 12, pp. 5486-5495.
ISSN: i0019-9567.

DT Journal

FS F

LA English

SL English

AB The majority of individuals infected with Mycobacterium ***tuberculosis*** achieve lifelong immune containment of the bacillus. What constitutes this effective host immune response is poorly understood. We compared the frequencies of gamma interferon (IFN-)-secreting T cells specific for five region of difference 1 (RD1)-encoded antigens and one DosR-encoded antigen in 205 individuals either with active disease (n = 167), whose immune responses had failed to contain the bacillus, or with remotely acquired latent infection (n = 38), who had successfully achieved immune control, and a further 149 individuals with recently acquired asymptomatic infection. When subjects with an IFN- enzyme-linked immunospot (ELISpot) assay response to one or more RD1-encoded antigens were analyzed, T cells from subjects with active disease recognized more pools of peptides from these antigens than T cells from subjects with nonrecent latent infection (P = 0.002). The T-cell frequencies for peptide pools were greater for subjects with active infection than for subjects with nonrecent latent infection for summed RD1 peptide pools (P 0.006) and culture filtrate protein 10 (CFP-10) antigen (P = 0.029). Individuals with recently acquired (<6 months) versus remotely acquired (>6 months) latent infection did not differ in numbers of peptide pools recognized, proportions recognizing any individual antigen or peptide pool, or antigen-specific T-cell frequencies (P 0.11). The hierarchy of immunodominance for different antigens was purified protein derivative (PPD) > CFP-10 > early secretory antigenic target 6 > ***Rv3879c*** > Rv3878 > Rv3873 > Acr1, and the hierarchies were very similar for active and remotely acquired latent infections. Responses to the DosR antigen -crystallin were not associated with latency (P = 0.373). In contrast to the RD1-specific responses, the responses to PPD were not associated with clinical status (P > 0.17) but were strongly associated with positive tuberculin skin test results (15-mm induration; P 0.01). Our results suggest that RD1-specific IFN--secreting T-cell frequencies correlate with the presence of disease rather than with protective immunity in M. ***tuberculosis*** -infected individuals and do not distinguish recently acquired asymptomatic infection from remotely acquired latent infection.

TI . . . of Region of Difference 1 Antigen-Specific but Not Purified Protein Derivative-Specific Gamma Interferon-Secreting T Cells Correlate with the Presence of ***Tuberculosis*** Disease but Do Not Distinguish Recent from Remote Latent Infections

AU. . . Pasvol, Geoffrey; Hackforth, Sarah; Varia, Hansa; Millington, Kerry

A.; Liu, Xiao-Qing; Bakir, Mustafa; Soysal*, Ahmet; Davidson*, Robert N.; Gunatheesan*, Rubamalar; ***Lalvani*, Ajit***

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UT Asymptomatic infection; CFP-10 protein; Enzyme-linked immunosorbent assay; Immunity; Immunodominance; Interferon; Latent infection; Lymphocytes T; Skin tests; Tuberculin; ***Tuberculosis*** ; gamma -Interferon; Bacillus; Mycobacterium ***tuberculosis***

=> s tuberculosis and Rv3879c
L4 133 TUBERCULOSIS AND RV3879C
=> s l4 and (T cells)
L5 16 L4 AND (T CELLS)

=> dup rem l5
PROCESSING COMPLETED FOR L5
L6 8 DUP REM L5 (8 DUPLICATES REMOVED)

=> d bib ab kwic 1-
YOU HAVE REQUESTED DATA FROM 8 ANSWERS - CONTINUE? Y/(N):y

L6 ANSWER 1 OF 8 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on STN
DUPLICATE 1
AN 2010:32509 BIOSIS <<LOGINID::20100824>>
DN PREV201000032509
TI Frequencies of Region of Difference 1 Antigen-Specific but Not Purified Protein Derivative-Specific Gamma Interferon-Secreting ***T*** ***Cells*** Correlate with the Presence of ***Tuberculosis*** Disease but Do Not Distinguish Recent from Remote Latent Infections.
AU Hinks, Timothy S. C.; Dosanjh, Davinder P. S.; Innes, John A.; Pasvol, Geoffrey; Hackforth, Sarah; Varia, Hansa; Millington, Kerry A.; Liu, Xiao-Qing; Bakir, Mustafa; Soysal, Ahmet; Davidson, Robert N.; Gunatheesan, Rubamalar; Lalvani, Ajit [Reprint Author]
CS Univ London Imperial Coll Sci Technol and Med, Natl Heart and Lung Inst, Dept Resp Med, TB Res Unit, Norfolk Pl, London W2 1PG, UK
a.lalvani@imperial.ac.uk
SO Infection and Immunity, (DEC 2009) Vol. 77, No. 12, pp. 5486-5495.
CODEN: INFIBR. ISSN: 0019-9567. E-ISSN: 1098-5522.
DT Article
LA English
ED Entered STN: 30 Dec 2009
Last Updated on STN: 30 Dec 2009
AB The majority of individuals infected with Mycobacterium ***tuberculosis*** achieve lifelong immune containment of the bacillus. What constitutes this effective host immune response is poorly understood. We compared the frequencies of gamma interferon (IFN-gamma)-secreting

T ***cells*** specific for five region of difference 1 (RD1)-encoded antigens and one DosR-encoded antigen in 205 individuals either with active disease (n = 167), whose immune responses had failed to contain the bacillus, or with remotely acquired latent infection (n = 38), who had successfully achieved immune control, and a further 149 individuals with recently acquired asymptomatic infection. When subjects with an IFN-gamma enzyme-linked immunospot (ELISpot) assay response to one or more RD1-encoded antigens were analyzed, ***T*** ***cells*** from subjects with active disease recognized more pools of peptides from these antigens than ***T*** ***cells*** from subjects with nonrecent latent infection (P = 0.002). The T-cell frequencies for peptide pools were greater for subjects with active infection than for subjects with nonrecent latent infection for summed RD1 peptide pools (P <= 0.006) and culture filtrate protein 10 (CFP-10) antigen (P = 0.029). Individuals with recently acquired (<6 months) versus remotely acquired (>6 months) latent infection did not differ in numbers of peptide pools recognized, proportions recognizing any individual antigen or peptide pool, or antigen-specific T-cell frequencies (P >= 0.11). The hierarchy of immunodominance for different antigens was purified protein derivative (PPD) > CFP-10 > early secretory antigenic target 6 > ***Rv3879c*** > Rv3878 > Rv3873 > Acr1, and the hierarchies were very similar for active and remotely acquired latent infections. Responses to the DosR antigen alpha-crystallin were not associated with latency (P = 0.373). In contrast to the RD1-specific responses, the responses to PPD were not associated with clinical status (P > 0.17) but were strongly associated with positive tuberculin skin test results (>= 15-mm induration; P <= 0.01). Our results suggest that RD1-specific IFN-gamma-secreting T-cell frequencies correlate with the presence of disease rather than with protective immunity in M. ***tuberculosis*** -infected individuals and do not distinguish recently acquired asymptomatic infection from remotely acquired latent infection.

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IT Major Concepts

Clinical Immunology (Human Medicine, Medical Sciences); Infection

IT Parts, Structures, & Systems of Organisms
T ***cells*** : immune system, blood and lymphatics

IT Diseases
tuberculosis : bacterial disease, diagnosis, immunology
Tuberculosis (MeSH)

IT Chemicals & Biochemicals
peptides; alpha-crystallin; gamma-interferon; culture filtrate protein 10 [CFP-10]; protein derivatives; Acr1; region of difference-1-encoded antigens

ORGN . . .
Mammals, Primates, Vertebrates

ORGN Classifier
Mycobacteriaceae 08881

Super Taxa
Mycobacteria; Actinomycetes and Related Organisms; Eubacteria; Bacteria; Microorganisms

Organism Name
Mycobacterium ***tuberculosis*** (species): pathogen

Taxa Notes
Bacteria, Eubacteria, Microorganisms

L6 ANSWER 2 OF 8 LIFESCI COPYRIGHT 2010 CSA on STN

AN 2010:129577 LIFESCI <<LOGINID::20100824>>

TI Frequencies of Region of Difference 1 Antigen-Specific but Not Purified Protein Derivative-Specific Gamma Interferon-Secreting ***T*** ***Cells*** Correlate with the Presence of ***Tuberculosis*** Disease but Do Not Distinguish Recent from Remote Latent Infections

AU C. Hinks, Timothy S.; S. Dosanjh, Davinder P.; Innes, John A.; Pasvol, Geoffrey; Hackforth, Sarah; Varia, Hansa; Millington, Kerry A.; Liu, Xiao-Qing; Bakir, Mustafa; Soysal*, Ahmet; Davidson*, Robert N.; Gunatheesan*, Rubamalar; Lalvani*, Ajit

CS Tuberculosis Research Unit, Department of Respiratory Medicine, National Heart and Lung Institute, Imperial College London, St. Mary's Campus, Norfolk Place, London W2 1PG, United Kingdom; E-mail: a.lalvanimperial.ac.uk

SO Infection and Immunity [Infect. Immun.], (20091200) vol. 77, no. 12, pp. 5486-5495.
ISSN: i0019-9567.

DT Journal

FS F

LA English

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L6 ANSWER 3 OF 8 SCISEARCH COPYRIGHT (c) 2010 The Thomson Corporation on STN

AN 2008:356900 SCISEARCH <<LOGINID::20100824>>

GA The Genuine Article (R) Number: 268SX

TI Improved diagnostic evaluation of suspected ***tuberculosis***

AU Lalvani, Ajit (Reprint)

CS Univ London Imperial Coll Sci Technol & Med, Fac Med, Dept Resp Med, TB

Immunol Grp, St Marys Campus, Norfolk Pl, London W2 1PG, England (Reprint)

AU Dosanjh, Davinder P. S.; Hinks, Timothy S. C.; Innes, John A.; Deeks, Jonathan J.; Pasvol, Geoffrey; Hackforth, Sarah; Varia, Hansa; Millington, Kerry A.; Gunatheesan, Rubamalar; Guyot-Revol, Valerie

CS Univ London Imperial Coll Sci Technol & Med, Fac Med, Dept Resp Med, TB Immunol Grp, London W2 1PG, England; Univ Oxford, Oxford OX1 2JD, England; Univ Birmingham, Birmingham B15 2TT, W Midlands, England; Birmingham Heartlands Hosp, Birmingham, W Midlands, England; Northwick Pk Hosp & Clin Res Ctr, Harrow HA1 3UJ, Middx, England
E-mail: a.lalvani@imperial.ac.uk

CYA England

SO ANNALS OF INTERNAL MEDICINE, (4 MAR 2008) Vol. 148, No. 5, pp. 325-W72.
ISSN: 0003-4819.

PB AMER COLL PHYSICIANS, INDEPENDENCE MALL WEST 6TH AND RACE ST, PHILADELPHIA, PA 19106-1572 USA.

DT Article; Journal

LA English

REC Reference Count: 48

ED Entered STN: 20 Mar 2008
Last Updated on STN: 20 Mar 2008

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Background: The role of new T-cell-based blood tests for ***tuberculosis*** in the diagnosis of active ***tuberculosis*** is unclear.

Objective: To compare the performance of 2 interferon-gamma assays and tuberculin skin testing in adults with suspected ***tuberculosis*** .

Design: Prospective study conducted in routine practice.

Setting: 2 urban hospitals in the United Kingdom.

Patients: 389 adults, predominantly of South Asian and black ethnicity, with moderate to high clinical suspicion of active ***tuberculosis*** .

Intervention: Tuberculin skin testing, the enzyme-linked immuno-spot assay (ELISpot) incorporating early secretory antigenic target-6 and culture filtrate protein-10 (standard ELISpot), and ELISpot incorporating a novel antigen, ***Rv3879c*** (ELISpot(PLUS)) were performed during diagnostic assessment by independent persons who were blinded to results of the other test.

Measurements: Sensitivity, specificity, predictive values, and likelihood ratios.

Results: 194 patients had a final diagnosis of active ***tuberculosis*** , of which 79% were culture-confirmed. Sensitivity for culture-confirmed and highly probable ***tuberculosis*** was 89% (95% CI, 84% to 93%) with ELISpot(PLUS), 85% (CI, 79% to 90%) with standard ELISpot, 79% (CI, 72% to 85%) with 15-mm threshold tuberculin skin testing, and 83% (CI, 77% to 89%) with stratified thresholds of 15 and 10 mm in vaccinated and unvaccinated patients, respectively. The ELISpotPLUS assay was more sensitive than tuberculin skin testing with 15-mm cutoff points (P = 0.01) but not with stratified cutoff points (P = 0.10). The ELISpotPLUS assay had 4% higher diagnostic sensitivity than standard ELISpot (P = 0.02). Combined sensitivity of ELISpotPLUS and tuberculin skin testing was 99% (CI, 95% to 100%), conferring a negative likelihood ratio of 0.02 (CI, 0 to 0.06) when both test results were negative.

Limitations: Local standards for tuberculin skin testing differed from others used internationally. The study sample included few immunosuppressed patients.

Conclusion: The ELISpotPLUS assay is more sensitive than standard ELISpot and, when used in combination with tuberculin skin testing,

enables rapid exclusion of active infection in patients with moderate to high pretest probability of ***tuberculosis*** .

TI Improved diagnostic evaluation of suspected ***tuberculosis***

AB Background: The role of new T-cell-based blood tests for ***tuberculosis*** in the diagnosis of active ***tuberculosis*** is unclear.

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STP KeyWords Plus (R): INTERFERON-GAMMA ASSAYS; LINKED IMMUNOSPOT ASSAY; CELL-BASED ASSAY; MYCOBACTERIUM- ***TUBERCULOSIS*** ; ***T*** - ***CELLS*** ; LIKELIHOOD RATIOS; SKIN-TEST; IMMUNOCOMPROMISED PATIENTS; INFECTED INDIVIDUALS; LOGISTIC-REGRESSION

L6 ANSWER 4 OF 8 SCISEARCH COPYRIGHT (c) 2010 The Thomson Corporation on STN

AN 2006:1070014 SCISEARCH <<LOGINID::20100824>>

GA The Genuine Article (R) Number: 100EV

TI Field evaluation of a novel differential diagnostic reagent for detection of Mycobacterium bovis in cattle

AU Cockle, P. J. (Reprint)

CS Vet Lab Agcy Weybridge, TB Res Grp, Dept Statutory & Exot Bacterial Dis, Addlestone KT15 3NB, Surrey, England (Reprint)

AU Gordon, S. V.; Hewinson, R. G.; Vordermeier, H. A.

CS E-mail: p.cockle@vla.defra.gsi.gov.uk

CYA England

SO CLINICAL AND VACCINE IMMUNOLOGY, (OCT 2006) Vol. 13, No. 10, pp. 1119-1124.
ISSN: 1556-6811.

PB AMER SOC MICROBIOLOGY, 1752 N ST NW, WASHINGTON, DC 20036-2904 USA.

DT Article; Journal

LA English

REC Reference Count: 29

ED Entered STN: 16 Nov 2006
Last Updated on STN: 16 Nov 2006

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB In the search for improved tools with which to control bovine ***tuberculosis*** , the development of enhanced immunodiagnostic reagents is a high priority. Such reagents are required to improve the

performance of tuberculin-based reagents and allow the discrimination of vaccinated cattle from those infected with Mycobacterium bovis. In this study, we identified the immunodominant, frequently recognized peptides from Rv3873, ***Rv3879c*** , Rv0288, and Rv3019c, which, together with peptides comprising the current lead diagnostic antigens, ESAT-6 and CFP-10, were formulated into a peptide cocktail. In a test of naturally infected cattle, this cocktail was significantly better than tuberculin was for identifying skin test-negative animals with confirmed bovine ***tuberculosis*** . In addition, the specificity of this cocktail was not compromised by Mycobacterium bovis BCG vaccination. In summary, our results prioritize this peptide-based, fully synthetic reagent for assessment in larger trials.

AB In the search for improved tools with which to control bovine ***tuberculosis*** , the development of enhanced immunodiagnostic reagents is a high priority. Such reagents are required to improve the performance of tuberculin-based. . . vaccinated cattle from those infected with Mycobacterium bovis. In this study, we identified the immunodominant, frequently recognized peptides from Rv3873, ***Rv3879c*** , Rv0288, and Rv3019c, which, together with peptides comprising the current lead diagnostic antigens, ESAT-6 and CFP-10, were formulated into a. . . of naturally infected cattle, this cocktail was significantly better than tuberculin was for identifying skin test-negative animals with confirmed bovine ***tuberculosis*** . In addition, the specificity of this cocktail was not compromised by Mycobacterium bovis BCG vaccination. In summary, our results prioritize. . .

STP KeyWords Plus (R): ***T*** - ***CELLS*** ; ***TUBERCULOSIS*** INFECTION; INTERFERON-GAMMA; ESAT-6; BCG; PROTEINS; ANTIGENS; RESPONSES; PEPTIDES; IDENTIFICATION

L6 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2010 ACS on STN
AN 2005:1049885 CAPLUS <<LOGINID::20100824>>
DN 143:345353
TI A method of diagnosing Mycobacterium ***tuberculosis*** infection in a human
IN Lalvani, Ajit
PA Isis Innovation Limited, UK
SO PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005090988	A2	20050929	WO 2005-GB1062	20050321
	WO 2005090988	A3	20060202		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2005224434 A1 20050929 AU 2005-224434 20050321
EP 1735623 A2 20061227 EP 2005-729257 20050321
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR
US 20080305503 A1 20081211 US 2008-593384 20080829
PRAI GB 2004-6271 A 20040319
WO 2005-GB1062 W 20050321

AB The invention provides a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human, or of detg. whether a human has been exposed to Mycobacterium ***tuberculosis*** . The methods comprising: contacting ***T*** - ***cells*** from said human with one or more of a peptide; a peptide having or comprising the sequence of at least 8 consecutive amino acids of the sequence; or a peptide having or comprising a sequence which is capable of binding to a T-cell receptor which recognizes a peptide; and detg. whether any of the said ***T*** - ***cells*** recognize said peptide, wherein first two steps are optionally carried out in vitro. The present invention relates to identification of ***Rv3879c*** as a major T-cell antigen in humans, with 45% of ***tuberculosis*** patients responding to peptides from the Rv3879 gene product. Only one of 38 (2.6%) BCG-vaccinated donors responded to peptides from ***Rv3879c*** . The high specificity of ***Rv3879c*** peptides, together with their moderate sensitivity in ***tuberculosis*** patients, identify these peptides as candidates for inclusion in new T cell-based tests for MTB infection.

OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI A method of diagnosing Mycobacterium ***tuberculosis*** infection in a human

AB The invention provides a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human, or of detg. whether a human has been exposed to Mycobacterium ***tuberculosis*** . The methods comprising: contacting ***T*** - ***cells*** from said human with one or more of a peptide; a peptide having or comprising the sequence of at least. . . which is capable of binding to a T-cell receptor which recognizes a peptide; and detg. whether any of the said ***T*** - ***cells*** recognize said peptide, wherein first two steps are optionally carried out in vitro. The present invention relates to identification of ***Rv3879c*** as a major T-cell antigen in humans, with 45% of ***tuberculosis*** patients responding to peptides from the Rv3879 gene product. Only one of 38 (2.6%) BCG-vaccinated donors responded to peptides from ***Rv3879c*** . The high specificity of ***Rv3879c*** peptides, together with their moderate sensitivity in ***tuberculosis*** patients, identify these peptides as candidates for inclusion in new T cell-based tests for MTB infection.

ST human Mycobacterium ***tuberculosis*** diagnosis T cell antigen sequence

IT Gene, microbial
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(CFP10; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Gene, microbial
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(ESAT-6; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Gene, microbial
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(RD-1; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Gene, microbial
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(RD-2; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Gene, microbial
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Rv1989c; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Gene, microbial
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Rv3878; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Antigens
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(T cell, Rv3873, Rv3878 or Rv1989c; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Diagnosis
Human
Molecular recognition
Mycobacterium ***tuberculosis***
Protein sequences
T cell (lymphocyte)
Test kits
Tuberculosis
(a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Cytokines
TCR (T cell receptors)
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Immobilization, molecular or cellular
(antibody; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Infection
(bacterial; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Antibodies and Immunoglobulins
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(complexes, antibody/cytokine; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Antibodies and Immunoglobulins
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(immobilized, cytokine binding to; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT Interferons
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(.gamma.; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT 700370-21-4 865720-88-3 865720-89-4 865720-90-7 865720-91-8 865720-92-9 865720-93-0 865720-94-1 865720-95-2 865720-96-3 865720-97-4 865720-98-5 865720-99-6 865721-00-2 865721-01-3 865721-02-4 865721-03-5
RL: DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amino acid sequence of peptide; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT 865732-41-8
RL: DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amino acid sequence; a method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

IT 700370-16-7 700370-17-8 700370-18-9 700370-19-0 700370-20-3 865721-04-6 865721-05-7 865721-06-8 865721-07-9 865721-08-0 865741-45-3 865741-46-4 865741-47-5 865741-48-6
RL: PRP (Properties)
(unclaimed sequence; method of diagnosing Mycobacterium ***tuberculosis*** infection in a human)

L6 ANSWER 6 OF 8 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on STN
AN 2004:338264 BIOSIS <<LOGINID::20100824>>
DN PREV200400338445
TI Evaluation of T-cell responses to novel RD1- and RD2-encoded Mycobacterium ***tuberculosis*** gene products for specific detection of human ***tuberculosis*** infection.
AU Liu, Xiao-Qing; Dosanjh, Davinder; Varia, Hansa; Ewer, Katie; Cockle, Paul; Pasvol, Geoffrey; Lalvani, Ajit [Reprint Author]
CS John Radcliffe HospNuffield Dept Clin Med, Univ Oxford, Level 7, Oxford, OX3 9DU, England
ajit.lalvani@ndm.ox.ac.uk
SO Infection and Immunity, (May 2004) Vol. 72, No. 5, pp. 2574-2581. print.
ISSN: 0019-9567 (ISSN print).
DT Article
LA English
ED Entered STN: 11 Aug 2004
Last Updated on STN: 11 Aug 2004
AB The tuberculin skin test for diagnosing Mycobacterium ***tuberculosis*** infection suffers from antigenic crossreactivity of purified protein derivative with BCG, resulting in poor specificity in BCG-vaccinated populations. Comparative genomics has identified several genetic regions in M. ***tuberculosis*** and M. bovis that are deleted in M. bovis BCG. Proteins encoded in these regions will form the basis of new specific T-cell-based blood tests that do not cross-react with BCG, but only two, early secretory antigen target 6 and culture filtrate protein 10, have been studied in detail in humans. We investigated four novel gene products, encoded by RD2 (Rv1989c) and RD1 (Rv3873, Rv3878, and ***Rv3879c***), that are absent from most or all of the vaccine strains of BCG, respectively. Sixty-seven overlapping peptides were tested in ex vivo gamma interferon enzyme-linked immunospot assays in 49 patients with

culture-confirmed ***tuberculosis*** and 38 healthy BCG-vaccinated donors. Forty-five percent (95% confidence interval (CI), 31 to 57%) and 53% (95% CI, 39 to 67%) of the ***tuberculosis*** patients responded to ***Rv3879c*** and Rv3873, respectively, identifying these proteins as major M. ***tuberculosis*** T-cell antigens in humans, while 35 and 25% of the patients responded to Rv3878 and Rv1989c, respectively. Of the 38 BCG-vaccinated donors, 1 (2.6%) responded to peptides from Rv3878 and ***Rv3879c*** , 3 (7.9%) responded to Rv3873, and none responded to Rv1989c. Exclusion of cross-reactive peptides encoded in conserved motifs of Rv3873, a PPE family member, increased its specificity to 97.4%. The high specificity of ***Rv3879c*** peptides and nonconserved Rv3873 sequences, together with their moderate sensitivity in ***tuberculosis*** patients, identifies these peptides as candidates for inclusion in new T-cell-based tests for M. ***tuberculosis*** infection.

TI Evaluation of T-cell responses to novel RD1- and RD2-encoded Mycobacterium ***tuberculosis*** gene products for specific detection of human ***tuberculosis*** infection.

AB The tuberculin skin test for diagnosing Mycobacterium ***tuberculosis*** infection suffers from antigenic crossreactivity of purified protein derivative with BCG, resulting in poor specificity in BCG-vaccinated populations. Comparative genomics has identified several genetic regions in M. ***tuberculosis*** and M. bovis that are deleted in M. bovis BCG. Proteins encoded in these regions will form the basis of. . . studied in detail in humans. We investigated four novel gene products, encoded by RD2 (Rv1989c) and RD1 (Rv3873, Rv3878, and ***Rv3879c***), that are absent from most or all of the vaccine strains of BCG, respectively. Sixty-seven overlapping peptides were tested in ex vivo gamma interferon enzyme-linked immunospot assays in 49 patients with culture-confirmed ***tuberculosis*** and 38 healthy BCG-vaccinated donors. Forty-five percent (95% confidence interval (CI), 31 to 57%) and 53% (95% CI, 39 to 67%) of the ***tuberculosis*** patients responded to ***Rv3879c*** and Rv3873, respectively, identifying these proteins as major M. ***tuberculosis*** T-cell antigens in humans, while 35 and 25% of the patients responded to Rv3878 and Rv1989c, respectively. Of the 38 BCG-vaccinated donors, 1 (2.6%) responded to peptides from Rv3878 and ***Rv3879c*** , 3 (7.9%) responded to Rv3873, and none responded to Rv1989c. Exclusion of cross-reactive peptides encoded in conserved motifs of Rv3873, a PPE family member, increased its specificity to 97.4%. The high specificity of ***Rv3879c*** peptides and nonconserved Rv3873 sequences, together with their moderate sensitivity in ***tuberculosis*** patients, identifies these peptides as candidates for inclusion in new T-cell-based tests for M. ***tuberculosis*** infection.

IT . . .
Sciences); Hematology (Human Medicine, Medical Sciences); Infection; Molecular Genetics (Biochemistry and Molecular Biophysics)

IT Parts, Structures, & Systems of Organisms
T ***cells*** : blood and lymphatics, immune system, mycobacterial RD-1 encoded gene product response, mycobacterial RD-2 encoded gene product response, specific ***tuberculosis*** detection

IT Diseases
tuberculosis : bacterial disease, diagnosis
Tuberculosis (MeSH)

ORGN . . .
Mammals, Primates, Vertebrates
ORGN Classifier
Mycobacteriaceae 08881
Super Taxa
Mycobacteria; Actinomycetes and Related Organisms; Eubacteria;
Bacteria; Microorganisms
Organism Name
Mycobacterium ***tuberculosis*** (species): pathogen
Taxa Notes
Bacteria, Eubacteria, Microorganisms

L6 ANSWER 7 OF 8 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on STN
DUPLICATE 2
AN 2004:438631 BIOSIS <<LOGINID::20100824>>
DN PREV200400437455
TI Cell envelope protein PPE68 contributes to Mycobacterium
tuberculosis RDI immunogenicity independently of a 10-kilodalton
culture filtrate protein and ESAT-6.
AU Demangel, Caroline [Reprint Author]; Brodin, Priscille; Cockle, Paul J.;
Brosch, Roland; Majlessi, Laleh; Leclerc, Claude; Cole, Stewart T.
CS Unite Genet Mol Bacterienne, Inst Pasteur, 28 Rue Dr Roux, F-75724, Paris,
15, France
demangel@pasteur.fr
SO Infection and Immunity, (April 2004) Vol. 72, No. 4, pp. 2170-2176. print.
ISSN: 0019-9567 (ISSN print).
DT Article
LA English
ED Entered STN: 17 Nov 2004
Last Updated on STN: 17 Nov 2004
AB The protective efficacy of Mycobacterium bovis BCG can be markedly
augmented by stable integration of Mycobacterium ***tuberculosis***
genomic region RD1. BCG complemented with RD1 (BCG::RDI) encodes nine
additional proteins. Among them, 10-kDa culture filtrate protein (CFP-10)
and ESAT-6 (6-kDa early secreted antigenic target) are
low-molecular-weight proteins that induce potent Th1 responses. Using
pools of synthetic peptides, we have examined the potential immunogenicity
of four other RD1 products (PE35, PPE68, Rv3878, and ***Rv3879c***).
PPE68, the protein encoded by rv3873, was the only one to elicit gamma
interferon (IFN-gamma)-producing cells in C57BL/6 mice infected with M.
tuberculosis . Anti-PPE68 ***T*** ***cells*** were
predominantly raised against an epitope mapped in the N-terminal end of
the protein. Importantly, inactivation of rv3873 in BCG::RD1 did not
modify CFP-10 and ESAT-6 secretion. Moreover, the generation of IFN-gamma
responses to these antigens following immunization with BCG::RD1 was
independent of PPE68 expression. Taken together, these results show that
PPE68 is an immunogenic product of the RD1 region, which does not
interfere with the secretion and immunogenicity of CFP-10 and ESAT-6.
TI Cell envelope protein PPE68 contributes to Mycobacterium
tuberculosis RDI immunogenicity independently of a 10-kilodalton
culture filtrate protein and ESAT-6.
AB The protective efficacy of Mycobacterium bovis BCG can be markedly
augmented by stable integration of Mycobacterium ***tuberculosis***
genomic region RD1. BCG complemented with RD1 (BCG::RDI) encodes nine
additional proteins. Among them, 10-kDa culture filtrate protein (CFP-10)
and. . . Using pools of synthetic peptides, we have examined the
potential immunogenicity of four other RD1 products (PE35, PPE68, Rv3878,

and ***Rv3879c***). PPE68, the protein encoded by rv3873, was the only one to elicit gamma interferon (IFN-gamma)-producing cells in C57BL/6 mice infected with M. ***tuberculosis*** . Anti-PPE68 ***T*** ***cells*** were predominantly raised against an epitope mapped in the N-terminal end of the protein. Importantly, inactivation of rv3873 in BCG::RD1. . .

IT Major Concepts
Biochemistry and Molecular Biophysics; Immune System (Chemical Coordination and Homeostasis)

IT Parts, Structures, & Systems of Organisms
Anti-PPE68 ***T*** ***cells*** ; cells

IT Chemicals & Biochemicals
10-kilodalton culture filtrate protein [CFP-10]: secretion; BCG; BCG-RDI; ESAT-6 [6-kDalton early secreted antigenic target]: secretion; PE35 protein; PPE68 protein: expression; RD1: genomic ergion; Rv3878 protein; ***Rv3879c*** protein; TH1 cytokine; antigens; cell envelope protein PPE68; gamma interferon [IFN-gamma, interferon-gamma]; proteins; synthetic peptides

ORGN . . .
Vertebrates

ORGN Classifier
Mycobacteriaceae 08881

Super Taxa
Mycobacteria; Actinomycetes and Related Organisms; Eubacteria; Bacteria; Microorganisms

Organism Name
Mycobacterium bovis (species)
Mycobacterium ***tuberculosis*** (species)

Taxa Notes
Bacteria, Eubacteria, Microorganisms

GEN Mycobacterium ***tuberculosis*** rv3873 gene (Mycobacteriaceae): inactivation; Mycobacterium ***tuberculosis*** rv3878 gene (Mycobacteriaceae); Mycobacterium ***tuberculosis*** ***rv3879c*** gene (Mycobacteriaceae)

L6 ANSWER 8 OF 8 SCISEARCH COPYRIGHT (c) 2010 The Thomson Corporation on STN

AN 2002:948919 SCISEARCH <<LOGINID::20100824>>

GA The Genuine Article (R) Number: 617TU

TI Identification of novel Mycobacterium ***tuberculosis*** antigens with potential as diagnostic reagents or subunit vaccine candidates by comparative genomics

AU Vordermeier H M (Reprint)
CS Vet Labs Agcy, TB Res Grp, Dept Bacterial Dis, Addlestone KT15 3NB, Surrey, England (Reprint)
AU Cockle P J; Gordon S V; Lalvani A; Buddle B M; Hewinson R G
CS Univ Oxford, John Radcliffe Hosp, Dept Clin Med, Oxford OX3 9DU, England; AgRes, Wallaceville Anim Res Ctr, Upper Hutt, New Zealand
CYA England; New Zealand

SO INFECTION AND IMMUNITY, (DEC 2002) Vol. 70, No. 12, pp. 6996-7003. ISSN: 0019-9567.
PB AMER SOC MICROBIOLOGY, 1752 N ST NW, WASHINGTON, DC 20036-2904 USA.
DT Article; Journal
LA English
REC Reference Count: 27
ED Entered STN: 13 Dec 2002
Last Updated on STN: 13 Dec 2002

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB An independent review for the British government has concluded that the development of a cattle vaccine against Mycobacterium bovis holds the best long-term prospects for ***tuberculosis*** control in British herds. The development of complementary diagnostic tests to differentiate between vaccinated and infected animals is necessary to allow the continuation of test-and-slaughter-based control policies alongside vaccination. Vaccination with M. bovis bacillus Calmette-Guerin (BCG), the only available vaccine, results in tuberculin purified protein derivative sensitivity and has shown varying vaccine efficacies in cattle. Thus, identification of more-specific reagents to distinguish between vaccination and infection, as well as the identification of subunit vaccine candidates for improved ***tuberculosis*** vaccines, is a research priority. In the present study, we applied comparative genomics to identify M. bovis-Mycobacterium ***tuberculosis*** antigens whose genes had been deleted in BCG Pasteur. In total, 13 open reading frames (ORFs) from the RD1, RD2, and RD14 regions of the M. ***tuberculosis*** genome were selected. Pools of overlapping peptides spanning these ORFs were tested in M. bovis-infected (n = 22), BCG-vaccinated (n = 6), and unvaccinated (n = 10) control cattle. All were recognized in infected cattle, with responder frequencies varying between 16 and 86%. In particular, eight highly immunogenic antigens were identified whose potentials as diagnostic reagents or as subunit vaccines warrant further study (Rv1983, Rv1986, Rv3872, Rv3873, Rv3878, ***Rv3879c*** , Rv1979c, and Rv1769).

TI Identification of novel Mycobacterium ***tuberculosis*** antigens with potential as diagnostic reagents or subunit vaccine candidates by comparative genomics

AB . . . British government has concluded that the development of a cattle vaccine against Mycobacterium bovis holds the best long-term prospects for ***tuberculosis*** control in British herds. The development of complementary diagnostic tests to differentiate between vaccinated and infected animals is necessary to. . . of more-specific reagents to distinguish between vaccination and infection, as well as the identification of subunit vaccine candidates for improved ***tuberculosis*** vaccines, is a research priority. In the present study, we applied comparative genomics to identify M. bovis-Mycobacterium ***tuberculosis*** antigens whose genes had been deleted in BCG Pasteur.
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STP KeyWords Plus (R): BOVINE ***TUBERCULOSIS*** ; ***T*** - ***CELLS*** ; CATTLE; BCG; INFECTION; ESAT-6; PROTECTION; ASSAYS